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Safety issues concerning phage therapy for veterinary applications

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Abstract

Phages have been proposed as natural antimicrobial agents to fight bacterial infections in animals. This is supported by several scientific evidences of the efficacy of phage therapy for veterinary applications. However, there are important safety issues that should be taken into consideration when developing a phage product for veterinary applications. For example it is of utmost importance to guarantee that phages are non-temperate and do not encode bacterial toxins. The phage administration strategy and timing should also be adequate in order to reduce the development of phage-resistant mutants. The present work describes the main strategies used to ensure a safe phage product for veterinary application, based on the results obtained on the scope of the European Project Phagevet-P (Veterinary Phage Therapies as Alternatives to Antibiotics in Poultry Production FP6-2003-Food-2-A:007224).